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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,698	09/30/2003	Sandeep K. Gopisetty	ARC920030056US1	7968

7590 07/19/2007  
Mark C. McCabe  
IBM Corporation IP Law C4TA/J2B  
650 Harry Road  
San Jose, CA 95120

EXAMINER
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AUGUSTINE, NICHOLAS

ART UNIT	PAPER NUMBER
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2179

MAIL DATE	DELIVERY MODE
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07/19/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/676,698

Applicant(s)

GOPISETTY ET AL.

Examiner

Nicholas Augustine

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

- A. This action in response to the following communications: Amendment filed 04/20//2007. This action is made **Final**.
- B. Claims 1-15 remains pending. Claims 1,9 and 14 are amended.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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3. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Battat et al (US 5,958,012).

**As for independent claim 1**, Battat teaches a storage area network (SAN)

management system to generate perspectives of a SAN topology (col.4, line 48), the SAN management system including: a SAN manager program to monitor a storage area network (SAN) (col.7, line 61 and col.8, line 5), said SAN manager program capable of generating an adjacency matrix (figure 17; wherein depicted is a matrix showing nodes of a network adjacent to one another), and said SAN manager program capable of facilitating direct data transfers between storage devices without server intervention (Of course those skilled in the art would appreciate that in a SAN storage to storage transfers can happen without sever intervention as widely known in the art:

<http://www.enterprisestorageforum.com/sans/features/article.php/981191>;

[http://en.wikipedia.org/wiki/Storage\\_area\\_network#SAN Best Practices and Lessons](http://en.wikipedia.org/wiki/Storage_area_network#SAN_Best_Practices_and_Lessons_Learned)

[Learned](http://en.wikipedia.org/wiki/Storage_area_network#SAN_Best_Practices_and_Lessons_Learned); ); a SAN management database linked with the SAN manager program (col.7, lines 61-63 and fig.1, 102-103), wherein the SAN management database maintains information identifying devices included within the SAN and connections between the devices (fig.10 and col.8, line 11; wherein a agent interacts with the database/repository to obtain object information; col.11, line 34); a plurality of sensor agents positioned within devices included within the SAN (104, col.8, lines 11-14 and fig.1), wherein the sensor agents gather information associated with events occurring within the SAN and provide the gathered information to the SAN manager for inclusion within

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the SAN management database (Col.8, lines 11-14 and fig.1; wherein is depicted of sending events and notifications to the management application); and a topology viewer linked to the SAN manager to generate a user requested topology perspective according to data included within the SAN management database and data associated with a previously requested topology perspective (col.9, lines 39-41 and col.5, line 25; fig.1 and 6; wherein figure 6 deals with the rendering of the current scene to the display device). However, Battat does not expressly disclose the term "SAN", only to suggest that the claimed invention of Battat teaches a program for a network. It would have been obvious to one of ordinary skill in the art at the time of the invention to include SAN as being able to be monitored by the program of Battat, since SAN is a form of a network (col.5, lines 53-67)

As for dependent claim 2, Battat teaches the system of claim 1 wherein the SAN includes hosts, storage devices and switches (col.11, line 2).

As for dependent claim 3, Battat teaches the system of claim 2 wherein the host comprises a database server or a file server (col.10, line 45).

As for dependent claim 4, Battat teaches the system of claim 1 wherein the topology perspective is generated for all devices within the SAN which are visible to a particular host (fig.1, 2, 11 and col.13, line 64).

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As for dependent claim 5, Battat teaches the system of claim 1 wherein the topology perspective is generated for all devices within the SAN which are visible to a particular storage device (col.11, line 1).

As for dependent claim 6, Battat teaches the system of claim 1 wherein a previously requested topology perspective is utilized by the topology viewer in the generation of a new user requested topology perspective (fig.2 and 3).

As for dependent claim 7, Battat teaches the system of claim 6 the topology viewer includes a memory for storing information pertaining to the previously requested topology perspectives (col.10, line 12 and 101,102).

As for dependent claim 8, Battat teaches the system of claim 7 wherein the information pertaining to previously requested topology perspectives includes paths which provide access between devices within the SAN (fig.11; wherein is depicted paths of connections between devices, etc).

**As for independent claim 9**, Battat teaches a method for generating a perspective of a SAN topology, comprising: receiving a request to provide a perspective of a SAN topology (col.8, line 36); analyzing the request at a topology viewer and sending the request to a SAN management program for adjacent nodes; receiving adjacent nodes from the SAN management program by the topology viewer and comparing them

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against the topology view cache to identify nodes already included with an adjacency matrix; determining the topology viewer those nodes which should not be in the adjacency matrix; calculating data paths within the requested perspective which have not been previously calculated (col.17, line 17 and col.18,lines 36 and 51); and generating the requested perspective according to both the previously calculated data paths and the calculated data paths (col.9, line 8; wherein the system is calculating the path of navigation from the user and to what devices show up in the object viewer at the instance of time to which the user is at then to which the calculation of other aspects are added into the provide a smooth navigation within a viewer space/ perspective).

However, Battat does not expressly disclose the term "SAN", only to suggest that the claimed invention of Battat teaches a program for a network. It would have been obvious to one of ordinary skill in the art at the time of the invention to include SAN as being able to be monitored by the program of Battat, since SAN is a form of a network (col.5, lines 53-67) (note the analysis of claim 1 as well).

As for dependent claim 10, Battat teaches the method of claim 9 wherein the perspective includes all SAN devices within the SAN topology which are connected to an identified SAN device and all SAN devices which are accessible to the identified SAN device, wherein the identified SAN device is included within the SAN topology (col.11, line 1; wherein the system includes all device relevant and active in a defined area).

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As for dependent claim 11, Battat teaches the method of claim 10 wherein the perspective includes a graphical map of all devices within the SAN topology which are visible to the identified device, connections between all of the devices included within the graphical map (fig.11 and 16; wherein figure 11 shows connection lines between devices and figure 16 shows devices connected as described in the related teachings of Battat).

As for dependent claim 12, Battat teaches the method of claim 10 wherein the identified SAN device includes a host, a storage device and a switch (col.11, line 2).

As for dependent claim 13, Battat teaches the method of claim 12 wherein the host comprises a database server or a file server and the storage devices comprise JBODs and storage controllers (col.10, line 45 and col.11, line 1; wherein the viewer of the system can define any type of network device such as redundant array of inexpensive disk / RAID/ JBOD).

**As for dependent claim 14**, Battat teaches a SAN management system device including system readable code readable by a server system for generating a perspective of a SAN topology (fig.1 and col.7, line 60), *comprising: logic means for receiving a request to provide a perspective of a SAN topology; logic means for analyzing the request at a topology viewer and sending the request to a SAN management program for adjacent nodes; logic means for receiving adjacent nodes*



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*from the SAN management program by the topology viewer and comparing them against a topology viewer cache to identify nodes already included with an adjacency matrix; logic means for determining by the topology viewer those nodes which should not be in the adjacency matrix; logic means for calculating data paths within the requested perspective which have not been previously calculated; and logic means for generating the requested perspective according to both the previously calculated data paths and the calculated data paths, whereby the perspective includes all SAN devices within the SAN topology which are connected to an identified SAN device and all SAN devices which are accessible to the identified SAN device, wherein the identified SAN device is included within the SAN topology, whereby the SAN device includes a host, a storage device and a switch (note the analysis of claims 1,9 – 13). However, Battat does not expressly disclose the term “SAN”, only to suggest that the claimed invention of Battat teaches a program for a network. It would have been obvious to one of ordinary skill in the art at the time of the invention to include SAN as being able to be monitored by the program of Battat, since SAN is a form of a network (col.5, lines 53-67)*

**As for independent claim 15**, Battat teaches a method of updating each of a cache of including perspectives of hosts, devices and switches in a SAN, based on a change to the SAN's configuration or an identification of devices missing from the SAN's configuration (col.8, line 13 and fig. 1-4).

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(\*) It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

### ***Response to Arguments***

Applicant's arguments filed 4/20/2007 have been fully considered but they are not persuasive.

- Applicant amends to over come Battat by adding "...the capability of facilitating data transfer between storage devices without server intervention..." (Page 8 of amendment)
- Examiner notes that this is a basic practice of a SAN and submits supporting evidence from <http://www.enterprisestorageforum.com/sans/features/article.php/981191>
- Applicant amends to over come Battat by adding "...adjacency matrix" (page 8 of amendment).
- Examiner cited figure 17 and col.17, line 17 and col.18, lines 36 and 51, which details on various layouts of the nodes in a network. Also note other embodiments listed by Battat, which describes layouts and customizability of.

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- Amended claims have been re-analyzed and applicant is reminded that specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006,1009, 158 USPQ 275, 277 (CCPA 1968)).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

***Inquires***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Augustine whose telephone number is 571-270-1056. The examiner can normally be reached on Monday - Friday: 7:30- 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on 571-272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



N. Augustine  
July 3, 2007

Nicholas Augustine  
Examiner  
AU: 2179



WEILUN LO  
SUPERVISORY PATENT EXAMINER